STATE OF IDAHO
DIVISION OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Administrator

September 20, 1999

CERTIFIED MAIL #Z 273 659 388

J. Marvin Hess
Idaho Minerals, LLC
P.O. Box 209
Malad City, Idaho 83252-0209

RE: T2-990005 Idaho Minerals, LLC, Malad City, PCA 86399
(Change in Ownership - Tier II Operating Permit No. 071-00008)

Dear Mr. Hess:

On August 4, 1999, the Idaho Department of Health and Welfare, Division of Environmental Quality (DEQ) received a letter stating a change in ownership of the Perlite Popping Plant located in Malad City, Idaho. The existing facility operates under Tier II Operating Permit No. 071-00008, issued February 28, 1996, to the National Perlite Products Company. The letter also states that Idaho Minerals, LLC, agrees to accept all provisions of the existing operating permit.

Based on review of the letter, and all applicable state and federal rules and regulations, DEQ finds this project meets the provisions of IDAPA 16.01.01.400 (Rules for the Control of Air Pollution in Idaho). Enclosed is Tier II Operating Permit No. 071-00008. Please be advised that the permit expiration date of February 28, 2001 remains unchanged.

You are strongly encouraged to request a meeting with DEQ to discuss the permit terms and requirements with which your facility must comply. Mr. Richard Elkins of the Pocatello Regional Office will contact you regarding this meeting. DEQ strongly recommends that, in addition to your facility's plant manager, your responsible official, environmental contact, and any operations staff responsible for day-to-day compliance with permit conditions also attend the meeting.

If you have any questions regarding the terms or conditions of the enclosed permit, please contact Sue Richards, Program Manager, Air Quality Permit Program, at (208) 373-0502.

Sincerely,

Orville D. Green (for)
Administrator
State Air Quality Program

ODG/MS/hs G:\AHW\SIMON\OP\TIER.2\IDMINERA\T2990005.PL

Enclosures

cc: [redacted] Pocatello RO
Source File (071-00008) COF
Permit File Manual EPA IOO

STATE OF IDAHO

AIR POLLUTION OPERATING PERMIT

GENERAL INFORMATION

PERMIT NUMBER: 071 - 00008

AQCR: 061

CLASS: A2

SIC:

ZONE: 12

UTM COORDINATE (km): 396.0, 4672.0

1. PERMITTEE
Idaho Minerals, LLC

2. PROJECT
Tier II Operating Permit

3. MAILING ADDRESS	TELEPHONE #	COUNTY
P.O. Box 209	(208) 766-4777	Oneida
4. CITY	**STATE**	**ZIP CODE**
Malad City	Idaho	83252-0209
5. PERSON TO CONTACT	**TITLE**	
J. Marvin Hess	Owner	

6. EXACT PLANT LOCATION
456 West, 445 North of Malad City, Idaho

7. GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS
Expanding Perlite for Horticultural and Building Products

8. PERMIT AUTHORITY

This permit is issued according to the **Rules for the Control of Air Pollution in Idaho**, Section 16.01.01.400 and pertains only to emissions of air contaminants which are regulated by the State of Idaho and to the sources specifically allowed to be operated by this permit.

THIS PERMIT HAS BEEN GRANTED ON THE BASIS OF DESIGN INFORMATION PRESENTED IN THE APPLICATION AND DIVISION OF ENVIRONMENTAL QUALITY'S (DEQ) TECHNICAL ANALYSIS OF THE SUPPLIED INFORMATION. CHANGES IN DESIGN OR EQUIPMENT, THAT RESULT IN ANY CHANGE IN THE NATURE OR AMOUNT OF EMISSIONS, MAY BE A MODIFICATION. MODIFICATIONS ARE SUBJECT TO DEQ REVIEW IN ACCORDANCE WITH SECTION 16.01.01.200 OF THE **RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO.**

(for DP Gram)

ADMINISTRATOR, STATE AIR QUALITY PROGRAM

DIVISION OF ENVIRONMENTAL QUALITY

ISSUED DATE: September 20, 1999

EXPIRATION DATE: February 28, 2001

AIR POLLUTION OPERATING PERMIT
Permittee and Location

Idaho Minerals, LLC
Tier II Operating Permit
Malad City, Idaho

PERMIT NUMBER

0	7	1	-	0	0	0	0	8

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

General Plant Description

1. SOURCE DESCRIPTION

1.1 Process Description

The facility is a Perlite expanding plant manufacturing horticultural medium, insulating wall fill, cryogenic insulation, and other expanding perlite products. Perlite ore is delivered to the facility by covered trucks that unload the material into a concrete hopper (1). The ore flows from the hopper onto the #1 unloading conveyor (2) then to the #2 unloading conveyor (3) which is a travelling belt so it can be moved on tracks to position the discharge over the proper silo. Crude ore is stored in six steel silos (4). The #5 reclaim conveyor (5) is fed by the silo discharge conveyor (25) and delivers it to #6 reclaim conveyor (6) which leads to the expander surge bin (7). The expander vibratory feeder (8) receives the ore from the surge bin and delivers it to the elevator (9). The elevator carries the ore to ore distribution pipes at the top of the expander (10) which is fired with propane and maintains a temperature of about 1700°F. The flame softens the ore and the internal moisture expands the ore ten (10) to twenty (20) times the original size. The expanded perlite is air cooled and collected in the primary product collector (11) which is a cyclone that separates the expanded perlite from the combustion gases and cooling air. The product passes through a 14" rotary valve (12) then to a cooler separator (13) which acts as a separator of the fines from the coarse aggregates. The coarse aggregates are collected in the coarse product packer (26). The fines are carried to the cooler exhauster (14) and then to cooler separator cyclone (15) which separates the perlite fines from the air stream which is discharged to the atmosphere via the expander baghouse (17). Since the expander baghouse is not operating properly at this time, the exhaust from this baghouse is connected to the unloading baghouse (20). Fine product passes through a 10" rotary valve (16) then to the fine product packer (26). Expander baghouse fines are collected in the baghouse fines packer (26) via an 8" rotary airlock (19).

1.2 Equipment Specifications

1.2.1 Conveyors

ID #	*Name*	*Width*	*Capacity*	*flow rate*
(2)	#1 unloading belt	18"	100 tph	60 tph
(3)	#2 unloading belt	18"	100 tph	60 tph
(5)	#5 reclaim conveyor	18"	30 tph	
(6)	#6 reclaim conveyor	18"	100 tph	30 tph
(25)	silo discharge conveyor			

AIR POLLUTION OPERATING PERMIT
Permittee and Location

PERMIT NUMBER 071 - 00008

Idaho Minerals, LLC
Tier II Operating Permit
Malad City, Idaho

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SOURCE

General Plant Description

1.2.2 Process Equipment

ID #	*Name*	*Capacity*	*Model*	*Power*
(1)	unloading hopper			
(4)	storage silos (6)	130 tons each		
(7)	expander surge bin	3 tons		
(8)	expander vibratory feeder	2 tph		
(9)	elevator	5 tph		
(10)	perlite expander	1 tph	VS 225	
(12)	14" rotary valve			
(13)	cooler separator			
(14)	cooler exhauster	1000 ft^3/min		
(16)	10" rotary valve			
(18)	baghouse exhauster (4)	1250 ft^3/min each		7.5 hp each
(19)	8" rotary valve			
(21)	ore unloading exhauster	13000 ft^3/min	Chicago Blower	25 hp
(22)	combustion blower	900 ft^3/min	North American	
(23)	screw conveyor			
(24)	pressurized container			
(26)	bag packers			
(27)	positive displacement blower (to pressurize container (24) to 6 psi)			

1.2.2.1 Process Equipment (cyclones)

ID #	*Name*	*Diameter*	*Efficiency*
(11)	primary product collector	72"	90 %
(15)	cooler separator cyclone	24"	94 %

1.2.3 Emissions Control Equipment

ID #	*Name*	*Manufacturer*	*Capacity*	*pressure drop*	*Air:Cloth*
(17)	expander baghouse	Perlite Corp.	5000 ft^3/min	2 in. H_2O	7.2
(20)	unloading baghouse	C&W Mfg.	13000 ft^3/min	4 in. H_2O	3.6

ISSUED: September 20, 1999
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Idaho Minerals, LLC
Tier II Operating Permit
Malad City, Idaho

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SOURCE

Ore Unloading System

1. SOURCE DESCRIPTION

1.1 Process Description

Sized and dried perlite ore is delivered to the facility in covered trucks. The ore is discharged into a hopper where it is fed to an elevating belt conveyor. The elevating belt conveyor discharges the ore on a travelling belt which can be moved so the discharge is located over the proper silo. The different ore grades are stored in six (6) identical silos.

1.2 Control Description

Emissions from the ore unloading system are controlled by the ore unloading baghouse.

1.3 Equipment Specifications

The ore unloading baghouse has the following specifications:

Manufacturer:	C&W Dust Systems
Model:	RA-280 Stationary
Air Capacity:	13,000 ft^3/min
Filtration Area:	2865 ft^2
Air/Cloth:	4.45 ACFM/ft^2
Pressure Drop:	6 in. H_2O
Control Efficiency:	99.9%

2. EMISSION LIMITS

Particulate matter (PM) and PM-10 (as defined in IDAPA 16.01.01.006.71) emissions from the loading hopper, #1 unloading belt, #2 unloading belt, and ore storage silos shall not exceed the pound per hour (lb/hr) or ton per year (T/yr) values listed in Appendix A.

3. OPERATING REQUIREMENTS

3.1 The static pressure drop across the ore unloading baghouse shall be maintained at a level greater than or equal to the manufacturer's specifications outlined in Section 1.3.

3.2 Documentation of the manufacturer's pressure drop specifications shall be kept on-site and shall be made available to Department representatives upon request.

4. MONITORING AND RECORDKEEPING REQUIREMENTS

4.1 The Permittee shall install, calibrate, maintain, and operate pressure drop monitoring equipment to continuously measure the pressure drop across the ore unloading baghouse to determine compliance with Section 3.1.

4.2 The Permittee shall monitor and record the pressure drop across the ore unloading baghouse once on daily basis in a log which that shall be kept on-site for a minimum of two (2) years and shall be made available to Department representatives upon request.

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Idaho Minerals, LLC
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Malad City, Idaho

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SOURCE

Ore Reclaim System

1. SOURCE DESCRIPTION

1.1 Process Description

The ore is reclaimed from the silo using a belt conveyor from the bottom of the silo to a cross conveyor. The cross conveyor discharges on to a reclaim belt delivering the ore to the ore surge bin. The ore is fed to an elevator through a vibratory feeder.

1.2 Control Description

Emissions from the ore reclaim system are controlled by the ore unloading baghouse and/or the expander baghouse.

1.3 Equipment Specifications

The expander baghouse has the following specifications:

Manufacturer:	Perlite Corporation
Model:	—
Air Capacity:	5,000 ft^3/min
Filtration Area:	694.5 ft^2
Air/Cloth:	7.2 ACFM/ft^2
Pressure Drop:	2 in. H_2O
Control Efficiency:	99.9%

2. EMISSION LIMITS

Particulate matter (PM) and PM-10 (as defined in IDAPA 16.01.01.006.71) emissions from the silo discharge conveyor, #5 reclaim belt, #6 reclaim belt, surge bin, and elevator shall not exceed the pound per hour (lb/hr) or ton per year (T/yr) values listed in Appendix A.

3. OPERATING REQUIREMENTS

3.1 The static pressure drop across the ore unloading baghouse and expander baghouse shall be maintained at a level greater than or equal to the manufacturer's specifications outlined in Section 1.3 of both SOURCE Ore Unloading System and SOURCE Ore Reclaim System.

3.2 Documentation of the manufacturer's pressure drop specifications shall be kept on-site and shall be made available to Department representatives upon request.

3.3 The exhausters of the expander baghouse shall be connected to the unloading baghouse until the expander baghouse is replaced.

3.4 DEQ shall be notified when the expander baghouse is replaced.

4. MONITORING AND RECORDKEEPING REQUIREMENTS

4.1 The Permittee shall install, calibrate, maintain, and operate pressure drop monitoring equipment to continuously measure the pressure drop across the ore unloading baghouse and the expander baghouse to determine compliance with Section 3.1.

AIR POLLUTION OPERATING PERMIT
Permittee and Location

Idaho Minerals, LLC
Tier II Operating Permit
Malad City, Idaho

PERMIT NUMBER

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The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

Ore Reclaim System

4.2 The Permittee shall monitor and record the pressure drop across the ore unloading baghouse and the expander baghouse once on daily basis in a log which that shall be kept on-site for a minimum of two (2) years and shall be made available to Department representatives upon request.

AIR POLLUTION OPERATING PERMIT
Permittee and Location

PERMIT NUMBER

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Idaho Minerals, LLC
Tier II Operating Permit
Malad City, Idaho

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

Expanding System

1. SOURCE DESCRIPTION

1.1 Process Description

The ore is expanded at 2400°F in the expander by a $6x10^6$ Btu/hr, propane-fueled combustion blower. After that, the product enters the collection/separation system which consists of a 72" diameter cyclone, a cooler separator, and a 24" diameter cyclone. Different sizes of expanded perlite are collected.

1.2 Control Description

Emissions from the expanding system are controlled by the ore unloading baghouse and/or the expander baghouse.

1.3 Equipment Specifications

The specifications of those control equipment are shown in Section 1.3 of both SOURCE Ore unloading System and SOURCE Ore Reclaim System.

2. EMISSION LIMITS

Particulate matter (PM), PM-10 (as defined in IDAPA 16.01.01.006.71), oxides of nitrogen (NO_x), and carbon monoxide (CO) emissions from the expander (combustion), 72" cyclone, cooler separator, and the fines (24") cyclone shall not exceed the pound per hour (lb/hr) or ton per year (T/yr) values listed in Appendix A.

3. OPERATING REQUIREMENTS

3.1 The static pressure drop across the ore unloading baghouse and expander baghouse shall be maintained at a level greater than or equal to the manufacturer's specifications outlined in Section 1.3 in both SOURCE Ore Unloading System and SOURCE Reclaim System.

3.2 Documentation of the manufacturer's pressure drop specifications shall be kept on-site and shall be made available to Department representatives upon request.

3.3 The exhausters of the expander baghouse shall be connected to the unloading baghouse until the expander baghouse is replaced.

3.4 DEQ shall be notified when the expander baghouse is replaced.

4. MONITORING AND RECORDKEEPING REQUIREMENTS

4.1 The Permittee shall install, calibrate, maintain, and operate pressure drop monitoring equipment to continuously measure the pressure drop across the ore unloading baghouse and the expander baghouse to determine compliance with Section 3.1.

4.2 The Permittee shall monitor and record the pressure drop across the ore unloading baghouse and the expander baghouse once on daily basis in a log which that shall be kept on-site for a minimum of two (2) years and shall be made available to Department representatives upon request.

AIR POLLUTION OPERATING PERMIT
Permittee and Location

PERMIT NUMBER

0	7	1	-	0	0	0	0	8

Idaho Minerals, LLC
Tier II Operating Permit
Malad City, Idaho

The Permittee is hereby allowed to operate the equipment described herein subject to the emission limits and monitoring and reporting requirements specified in this permit.

SOURCE

Fugitive Emission Sources

1. SOURCE DESCRIPTION

1.1 Process Description

Fugitive emissions are generated at transfer points, unloading, reclaiming, and unpaved haul roads.

2. EMISSION LIMITS

2.1 Particulate matter (PM) from ore unloading, ore reclaiming, and haul roads shall not exceed the pound per hour (lb/hr) or ton per year (T/yr) values listed in Appendix B.

2.2 Visible fugitive emissions shall not be observed leaving the property boundaries exceeding a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. This visual determination is to be conducted using Method 22, 40 CFR Part 60, Appendix A.

2.3 Particulate matter (PM) emissions from any unloading, loading, or transfer point shall not exhibit greater than twenty percent (20%) opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period, as determined by using the Department's "Procedure's Manual for Air Pollution Control".

3. OPERATING REQUIREMENTS

Fugitive emissions generated from transfer points, roads, and all other sources of fugitive emissions shall be reasonably controlled in accordance with IDAPA 16.01.01.650 (Rules for the Control of Air Pollution in Idaho).

Some of the reasonable precautions may include, but are not limited to, the following:

3.1 Use of water or environmentally safe chemical dust suppressants;

3.2 Use of control equipment or enclosures; and

3.3 Paving of haul roads.

Appendix A

Idaho Minerals, LLC - Malad City

Hourly (lb/hr) and Annual (T/yr) Point Source Emissions Limits

Source	PM		PM-10		SO_2		CO		NO_x		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Ore Unloading	1.65	0.06	1.65	0.06	---	---	---	---	---	---	---	---
Ore Reclaim	0.90	0.06	0.90	0.06	---	---	---	---	---	---	---	---
Expanding	0.25	0.49	0.25	0.49	---	---	0.11	0.23	0.84	1.68	0.03	0.06

ISSUED: September 20, 1999
EXPIRES: February 28, 2001

Appendix B

Idaho Minerals, LLC- Malad City

Hourly (lb/hr) and Annual (T/yr) Fugitive Source Emissions Limits

Source	PM		PM-10		SO_2		CO		NO_x		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Ore Unloading	3.17	0.11	3.17	0.11	----	----	----	----	----	----	----	----
Ore Reclaim	1.83	0.12	1.83	0.12	----	----	----	----	----	----	----	----
Unpaved Roads	----	0.06	----	0.02	----	----	----	----	----	----	----	----

ISSUED: September 20, 1999
EXPIRES: February 28, 2001

TIER II OPERATING PERMIT GENERAL PROVISIONS

A. All emissions authorized herein shall be consistent with the terms and conditions of this permit. The emission of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the **Rules for the Control of Air Pollution in Idaho**, and the Environmental Protection and Health Act, Idaho Code 39-101 et. seq.

B. The Permittee shall at all times (except as provided in the **Rules for the Control of Air Pollution in Idaho**) maintain and operate in good working order all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable laws for the control of air pollution.

C. The Permittee shall allow the Director, and/or his authorized representative(s), upon the presentation of credentials:

1) To enter upon the Permittee's premises where an emission source is located, or in which any records are required to be kept under the terms and conditions of this permit; and

2) At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and to require stack emission testing (i.e., performance tests) in conformance with state approved or accepted EPA procedures when deemed appropriate by the Director.

D. Except for data determined to be confidential under Section 9-342A, **Idaho Code**, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate regional office of the Division of Environmental Quality.

E. Nothing in this permit is intended to relieve or exempt the Permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

F. In the event of any change in control or ownership of source(s) from which the authorized emissions emanate, the Permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Director.

G. This permit shall be renewable on the expiration date, provided the Permittee submits any and all information necessary for the Director to determine the amount and type of air pollutants emitted from the equipment for which this permit is granted. Failure to submit such information within sixty (60) days after receipt of the Director's request shall cause the permit to be voided.

H. The Director may require the Permittee to develop a list of Operation and Maintenance Procedures to be approved by DEQ. Such list of procedures shall become a part of this permit by reference, and the Permittee shall adhere to all of the operation and maintenance procedures contained therein.

I. Performance tests (i.e.; air emission source tests) conducted pursuant to testing requirements in this permit must be conducted in accordance with IDAPA 16.01.01.157. Such testing shall not be conducted on weekends or state holidays unless the Permittee obtains prior DEQ approval.

The Permittee shall submit a proposed test date for **each** performance test required by this permit to DEQ for approval at least fifteen (15) days prior to each respective test date (including each test date for periodic tests such as, for example, annual tests). The Permittee shall promptly notify DEQ of any change in the proposed test date and shall provide at least five (5) working days advanced notice prior to conducting any rescheduled test, unless DEQ approves a shorter notice period.

Within thirty (30) days of the date on which a performance test required by this permit is concluded, the Permittee shall submit to DEQ a performance test report for the respective test. The performance test report shall include any and all process operating data required to be recorded during the test period as well as the test results, raw test data, and associated documentation.

The maximum allowable source operating rate shall be limited to 120% of the average operating rate attained during the most recent performance test conducted pursuant to this permit, for which a test protocol has been granted prior approval by DEQ, which demonstrated compliance with the respective pollutant emission limit unless; (1) a more restrictive operating limit is specified elsewhere in this permit or; (2) at such an operating rate, emissions would exceed any emission limit(s) set forth in this permit.

J. The provisions of this permit are severable; and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.